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INSIDER

Newsletter for the Employees of Ames Laboratory ■ Volume 2, Number 11 ■ November 1991

A New Face Gives a Lift to Science Education

Connie Hargrave Coordinates Ames Lab Educational Efforts

"I took this job because it offers a challenge. I'm an adventurous person; I like to learn," declares Connie Hargrave while rearranging and putting away things in her new office in 108 Office & Lab.

Hargrave also likes to see other people learn, especially about science. As the Lab's new educational coordinator, she says one of her primary goals is to provide for continuity and integration of the Lab's science education efforts, maximizing the use of resources. "I'm helping plan programs that will efficiently and effectively use everyone's time and other resources," says Hargrave. "My objective, as coordinator, is to develop new educational projects based on current research and keep the Lab involved in science education continually, twelve months a year."

Bringing enthusiasm and commitment to her new position, Hargrave plans to combine the skills of both scientists and educators in helping the Lab make a significant contribution to science education. "We are fortunate, indeed, to obtain the services of someone as talented and dedicated as Connie Hargrave," says Director Tom Barton.

Hargrave intends to enlist the aid of scientist volunteers to excite young people about science and science-related careers. "It seems very natural to me that Ames Lab scientists will want to be involved in science education because these efforts impact the future of their profession; we are in a crisis situation now," she explains. "We need to work together to create effective and innovative methods to increase the scientific literacy of the general public as well as increase the number of people who seek careers in the sciences."

Toward this endeavor Hargrave has what she calls one really big goal. "I'd like to see the Ames Lab/ISU partnership become known throughout the United States as the alliance that produces scientists." Hargrave says an important feature of this goal is to increase the number of minority students entering science careers. "200 by 2000" is her motto—to graduate 200 minority scientists by the year 2000 through the Ames Lab/ISU partnership.

Soon to receive her Ph.D. in instructional technology, Hargrave is formulating science education action plans for Ames Lab and provides coordination services and educational expertise to scientists who need assistance with individual plans of their own. "Eventually, I'd like to see a brief explanation of all science education programs flow through my office," says Hargrave. "If I'm aware of individual projects, I can help the scientists involved with contacts and resources and acquaint them with other science programs on campus."

"I'd like to see the Ames Lab/ISU partnership become known throughout the United States as the alliance that produces scientists."
–Connie Hargrave

Current science educational efforts to which Hargrave is directing her talents include improving and expanding the Ames Lab Science Bowl and working with a pre-calculus math program for high school teachers with ISU's College of Education and Department of Mathematics. She is also collaborating with Applied Mathematical Sciences (AMS) Assistant Program Director Barb Helland and Research Helper Randy Eckerson to strengthen the bond between Ames Lab and the College of Education through the establishment of a joint microcomputer facility. This facility will be used by Ames Lab's AMS program to train teachers in the educational implications of accessing supercomputers and by the College of Education for graduate and undergraduate courses in instructional technology and educational computing.

Looking ahead, Hargrave intends to maximize the Lab's resources, continuing to expand the relationship with ISU's College of Education. She will capitalize on the expertise of Ames Lab associates and ISU educators Ann Thompson and Lynn Glass as well as others in developing specific science education thrusts for Ames Lab.

One innovative science education project that Hargrave is looking at will establish formal ties with area schools. Called "Friends of Ames Laboratory," the outreach project would be directed at K-12 students and designed to stimulate an inquisitiveness about science and science-related careers. Features of the "Friends" project could include Laboratory-sponsored school-wide assemblies, intensive science skill-building workshops for teachers and "adoption" of a class by the Lab to take part in a joint research activity.

Hargrave is mapping out other science education strategies as well. She is working with the College of Education to develop a model science classroom for training students who plan to be science teachers. A proposed minority recruitment and retention program has at its heart her "200 by 2000" goal. Additionally, Hargrave intends to work with existing science organizations to initiate some community-based science education. "Such programs would center around training community leaders in the importance of science in everyday life so they in turn can help facilitate a scientifically literate populace," explains Hargrave.

Accepting the challenge, Connie Hargrave adds a new zest to Ames Lab science education efforts.

Accepting the challenge to improve and expand Ames Lab's science education efforts, Hargrave keeps her eye on the one hurdle she must always clear. "It's essential to devise year-round programs in which the Lab can participate but which do not overextend scientist volunteers," she states. "Designing programs that maximize everyone's time and other resources is an important key to the success of our science education endeavors." ■

George Burnet, associate and ISU distinguished professor, won the W. Leighton Collins Award for Distinguished and Unusual Service from the American Society for Engineering Education. Active in the society since 1963, Burnet was recognized for significant individual contributions to improving engineering and engineering technology education.

O. Norman Carlson, associate, was elected a Fellow by ASM International, "For significant contributions to the preparation and properties of high purity metals and to alloying behavior including classic studies of effects associated with controlled additions of interstitials."

Susannah Scott, graduate assistant, Processes and Techniques, received the Kaese Scholarship in ISU's Department of Music. Created for non-music majors, the scholarship encourages continued study of music for lifelong enjoyment. Scott plays the oboe.

James Fritz

Gregor Junk

Harry Svec

James Fritz, senior chemist, **Gregor Junk**, research advisor, and **Harry Svec**, associate, have "one of the twenty most cited articles appearing in the *Journal of Chromatography* since its inception." A study done on the publication of the 500th volume, determined the most frequently cited papers published in the journal. According to the editor, the paper entitled "Use of Macroreticular Resins in the Analysis of Water for Trace Organic Contaminants," published in 1974, "helped expand the horizons of chromatography and had an impact on its development."

Colossal Collisions

Harold Skank, head of Instrumentation Services, John Hill, program director of Experimental Nuclear Physics, Fred Wohn, senior physicist, and Del Bluhm, manager of Engineering Services, were among 35 participants from the U.S. and abroad who met in Ames at Gateway Center last month to work on designing a detector for the Relativistic Heavy Ion Collider (RHIC) accelerator to be built at Brookhaven. RHIC will collide beams of gold nuclei at ultrarelativistic energies. These head-on collisions will produce a quark-gluon plasma, thought to be the state of the universe at the instant it was born before it cooled sufficiently so that atoms and nuclei could form. By producing and studying this plasma, scientists also hope to learn more about the basic nature of the strong force that holds the nucleus together. The $30 million detector and the accelerator are projected to be complete and operating by 1997.

Materials Sciences Program Review

An interested audience listens to participants in Ames Lab's Materials Sciences Program Review held October 10-11. Overviews of each area were presented by Otto Buck, Metallurgy and Ceramics, John Corbett, Materials Chemistry, and Bruce Harmon, Condensed Matter Physics. Research presentations by Al Bevolo, Scott Chumbley, Bill Spitzig, Iver Anderson, Keith Woo, Tom Barton, John Clem, Costas Soukoulis, Ferdinando Borsa and David Lynch followed.

A+ For Us

Getting a Top-Notch Grade on the Tiger Team Inspection

We're aiming for a four-point when we get our grade slip from the Tiger Team investigators next spring. Not only do we want to pass, we're working for the A+ that says Ames Lab is a model example of a "safety culture."

As a number of other DOE labs have already learned, there is much work to do to achieve that status. We can't get the job done if we just cram for the Tiger Team final exam. We CAN get the job done only if we thoroughly prepare.

Toward that endeavor, information is being distributed regarding chemicals in the workplace, health and safety issues, performance criteria, conduct of operations and quality assurance. This material is being prepared by personnel directly involved in implementing policies and procedures to ensure the Lab's compliance with DOE orders and other statutes. This information will be very useful in preparing for the Tiger Team inspection. Watch for it and use it.

Paul Ziemer, DOE's assistant secretary for Environment, Safety and Health, has the overall responsibility for Tiger Team inspections. He recently made several comments concerning the reasons behind the inspections that will help clarify Admiral Watkins' goals. Ziemer says the Tiger Team inspections should foster a "safety culture" about environmental, safety and health (ES&H) issues and ensure that these issues receive significant attention in the workplace.

ES&H considerations should "permeate" all of our activities. Ziemer's recipe for achieving success in these endeavors is to show "mindful interest, attention to details, reviews and documentation, and knowledge of the process." A successful approach to ES&H issues is stated in the DOE order, "Conduct of Operations," that calls for operating a facility so potentially dangerous situations don't occur. In contrast to just avoiding such situations, the goal is to achieve excellence in our conduct of operations through an up-to-date approach to ES&H issues.

The most important thing to remember in preparing for the Tiger Team visit is that each one of us must be involved in this effort. Don't depend on others to do your job. Everyone needs to do a thorough "housecleaning" before the inspection. Safety coordinators must be intimately involved in preparing for the Tiger Team visit, conducting self-assessments of their areas and establishing plans to continue appropriate ES&H programs after the Tiger Team inspection is completed.

If we exhibit a true concern for safety in our workplace, an active interest and a real desire to maintain a healthy environment free of contaminants, we will prove successful in the Tiger Team evaluation. It will take a commitment on the part of every one of us to do what is necessary to emerge from the Tiger Team inspection with an A+ and have a safer, healthier place to work.

– Rollie Struss

Most Frequent Safety Violations

★ OSHA "TOP TEN HITS" LIST ★

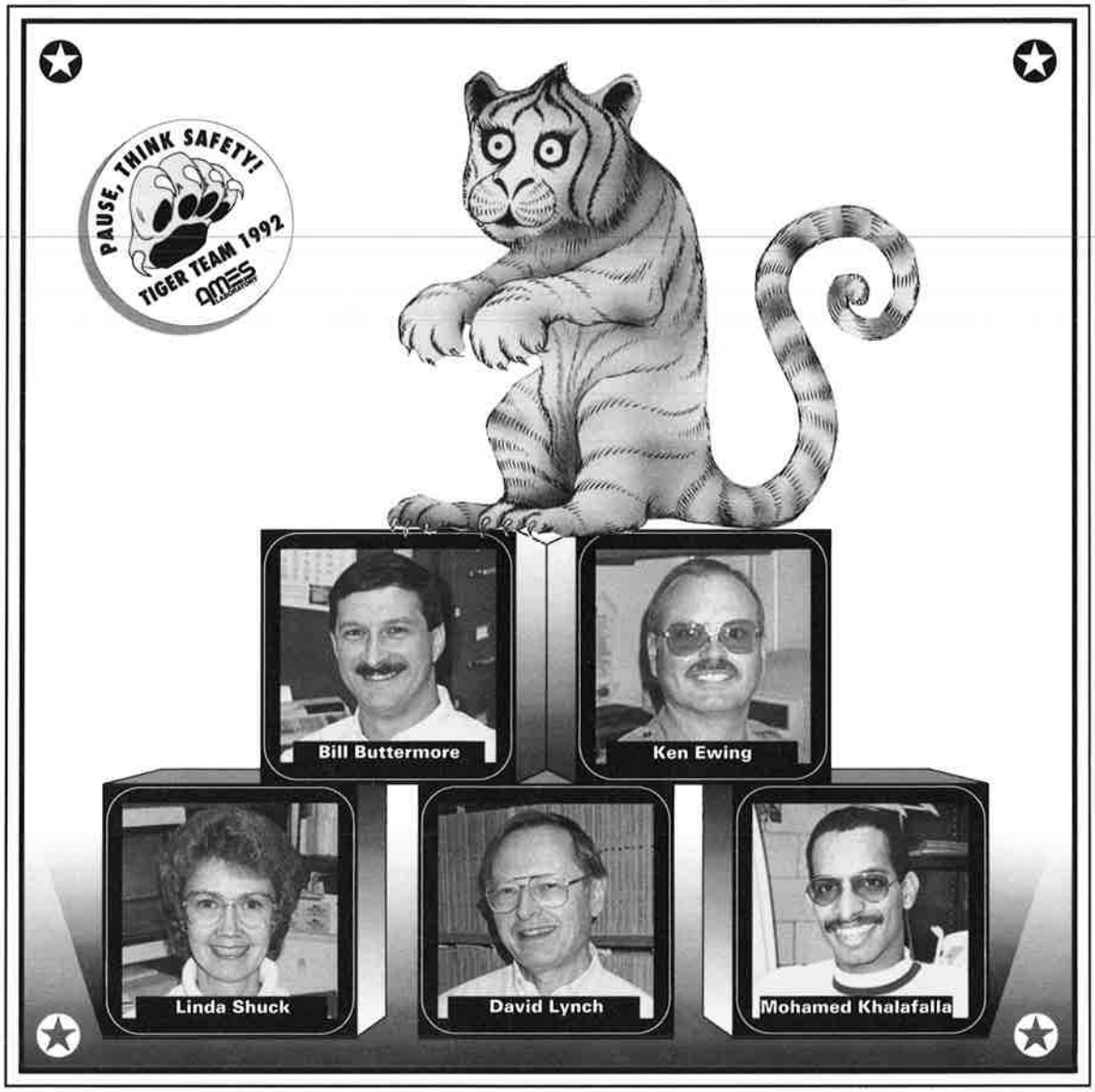
10. Improper modifications/extensions to utilities such as water and electricity
9. Machine guarding/anchoring/care and use
8. Overhead storage above six feet
7. Housekeeping
6. Blocked exits, disconnects and electrical panels
5. Know emergency procedures and warnings (fires, tornadoes, etc.) training/drills/fire extinguisher use
4. Personal protective devices (ppd's) in good condition
3. Understand the right-to-know program and materials safety data sheets (MSDS)
2. Proper labeling, handling and storage of materials

★ *And the number one TIGER TEAM finding:* ★

1. Electrical cords and appliances
   Defective cords or improper use of cords and plug strips; ungrounded cords; plug ends that are not "dead fronted"; cords taped to floors or strung through ceilings and doors; strain relief on cords; NEMA 208 V receptacles; Ground Fault Circuit Interrupt (GFCI) receptacles near water sources; fully enclosed electric devices; junction boxes with open or unused slots (unless they are properly plugged); and plug strips plugged into plug strips

Find-A-Fault Contest

Keep the Suggestions Coming



Safety suggestions are pouring in for the Find-A-Fault contest, indicating a genuine concern for ES&H issues. The first five winners of $100 dollar savings bonds and their suggestions are listed below.

(Awards will not be given for requirements already stated in the Lab's Safety Manual. One suggestion made repeatedly is moving the traffic control lights on Pammel Drive to the east end of Spedding, but the University Traffic Committee has already refused this request.)

Bill Buttermore, assistant program director, Fossil Energy: *Designate a specific space in each laboratory for safety equipment. Mark it and maintain it for personal protective equipment.*

Ken Ewing, plant safety patrol officer: *Initiate an ongoing inspection of electrical devices throughout the Laboratory to prevent electrical safety problems with equipment, extension cords and the like.*

Mohamed Khalafalla, student associate, Fundamental Interactions: *Provide illuminated signs for fire extinguishers or blankets used in emergencies.*

David Lynch, senior physicist, Condensed Matter Physics: *Provide for the issue of small quantities of commonly used chemicals, for example, get a pint instead of a gallon. This could significantly reduce the amount of chemicals in laboratories.*

Linda Shuck, clerk typist III, High Energy Physics: *Provide an emergency warning public address system in the spaces rented by Ames Laboratory from ISU.*

SAFETY HOTLINE

You are encouraged to report safety infractions and concerns. Please call the Office of Information, 4-1856. Calls will be kept confidential.

BULLETIN BOARD

Effective November 15, 1991 Experimental Nuclear Physics will no longer be an Ames Lab program. DOE will continue funding the program under direct contract with ISU. John Hill and Fred Wohn will be co-principal investigators of the new program which will emphasize studies of relativistic heavy ion physics.

MISS THE ALL-LAB TIGER TEAM FORUM?

643 people attended the mandatory all-employee forums held last month in preparation for the Lab's February Tiger Team visit. If you were one of the few people unable to attend a session, you must contact the Office of Information at 4-9557 to schedule a viewing of the videotaped presentation. Attendance will be taken.

CONFERENCE ROOM RESERVATIONS

December 2-13, the Spedding Hall conference rooms will be occupied by Chicago Tiger Team personnel. The conference room in 115 Office and Laboratory will be available during this time. Call Linda Penn, 4-6551. Contact Jeanine Crosman, 4-3757 if you have any questions.

DISPOSING OF MATERIALS IN PREPARATION FOR THE TIGER TEAM

All waste chemicals should be taken to Safety, Health and Plant Protection for disposal. Call them for an appointment first.

Return all tagged equipment to the warehouse for disposal so these items can be removed from the property records.

Do not leave materials on docks for other people to dispose of.

Do not put loose trash in the dumpsters; everything must be bagged. You may get bags from your custodian.

If you have questions about disposal, call SH&PP, 4-2153 or Facilities Services, 4-3756, for directions.

NEED EQUIPMENT HAULED AWAY?
Please schedule with Facilities Services three days in advance if you have a piece of equipment that must be hauled away. Call Mark Nelson, 4-7889.

NEED SPECIAL CLEANUP?
For special cleanup of your area, please call Lynn Runge at 4-4360 to schedule a time.

SAFETY HOTLINE

You are encouraged to report safety infractions and concerns. Please call the Office of Information, 4-1856. Calls will be kept confidential.

Ames Laboratory has a scientific glass-washing facility for your convenience. Interested parties should contact the Storeroom at 4-6082.

NATIONAL AIDS AWARENESS DAY

Admiral Watkins recently announced that the DOE will participate in the "World AIDS Day," and its theme "Sharing the Challenge." Sponsored by the World Health Organization, the National AIDS Awareness Day is set for December 2.

It All Started With a Brown Paper Sack

Norm Carlson

"I had no particular interest in researching the history of my family," says retired Ames Lab Associate Metallurgist Norm Carlson. "I got started on it by accident while visiting a colleague at the University of Utah in Salt Lake City." Finding himself with some free time one afternoon, Carlson decided to visit the genealogical library of the Latter Day Saints. That chance afternoon visit sparked his interest in learning more about the family history on his mother's side. "I became fascinated with my ancestors on her side because they have been here since pre-colonial times," says Carlson.

Tracing his Scotch/Irish heritage became a ten-year quest for Carlson who started the research in 1980. "The first resource I had was an old, brown paper sack on which my mother had written some information about her family background," explains Carlson. "It gave me a place to start."

One of Carlson's more surprising discoveries in the search for his roots was finding that his grandfather and great grandfather lived in Decatur County, Iowa for about 20 years. "It was because of this Iowa connection that I was awarded the Iowa Pioneer Certificate by the Iowa Genealogical Society," notes Carlson. "To qualify, you must have had a direct ancestor living in Iowa at or before the time of the 1855 census." Another of Carlson's distant relatives was involved in the American Revolution. It is to the patriotism of this ancestor that Carlson owes his membership in the Son's of the American Revolution.

Carlson published two separate volumes of his family history, *The History and Genealogy of the Gammill Family* in 1988 and *The Sheehans in America* in 1990. "I like to write and do library literature searching," states Carlson, who says he would like to write a history of the Lab's metallurgy division. "I came here in 1943, before there was a Lab as such," notes Carlson. "I did graduate work under Harley Wilhelm. I feel I owe the Lab a history of the metallurgy division." ■

Autumn Artist


Carol Mack

"With the holidays just around the corner, fall is the season for making gifts," says Carol Mack, coordinator of Occupational Medicine.

Mack designs, creates and sells many different craft items. "I make things I like," she says. "I rarely do things over and usually come up with new ideas." This year Mack arranged flowers in old sewing machine drawers, made fabric bunnies, country dolls, and Santas dressed in old quilts. She is also refinishing and selling wooden shelves and doll benches made by Roy Whetstone, retired senior research technician from Metallurgy and Ceramics. She sells her creations at local craft fairs and on consignment.

Filled with the flowers she grows and dries, old tattered quilts her grandmother made, lace from antique pillow cases, handkerchiefs and doilies, Mack's craft and sewing room depicts a beehive of activity. "I work almost every evening and sometimes into the late-night hours," she notes.

In addition to her crafts, Mack's home reflects her love for quilts and antiques. Twenty quilts, all made by her grandmother, adorn her home, as do other family heirlooms.

Mack's artistic endeavors extend beyond her involvement with crafts. This fall she led a church landscaping project. After the church received an estimate of $14,500 from a professional landscaper, Mack said, "I can do it cheaper than that." She and a dozen church volunteers spent a day planting 25 trees and shrubs, complete with river rock and railroad ties, for only $600. "The planning was easy, but the planting was hard work," she says. "It looks great!"

Born in Lohrville, Iowa, southwest of Fort Dodge, Mack and her husband, Paul, an adult student in computer science at ISU, live in Nevada with their three active sons. A sports enthusiast, she lifts weights, plays volleyball in two leagues, racquetball, and golf. ■

Promotions

Tim Aspengren from Carpenter to Facilities Mechanic III
Judy Grass from Clerk Typist II to Secretary II
Saren Johnston from Library Assistant IV to Communications Specialist II
Tracy Scebold from Buyer II to Buyer III
Rebecca Shivvers from Secretary III to Program Assistant II

New Employees

Mark Arnold, Postdoctoral Fellow (Gustafson)
James Berninghaus, ERD Machinist Sr. (Hand)
Sheng-Liang Chang, Associate Chemist (Thiel)
Luann Galeazzi, Secretary II (Knutson)
Yoon Mi Lee Hamrick, Postdoctoral Fellow (Edelson)
Yasuo Iida, Postdoctoral Fellow (Yeung)
Arthur Kimble, Custodian I (Runge)
Cherryl Laas, Custodian I (Runge)
Hsing Lee, Postdoctoral Fellow (DePristo)
Sang Chun Lee, Postdoctoral Fellow (Edelson)
Patricia Lewis, Postdoctoral Fellow (Corones)
Lisa Mayberry, Secretary II (Miller)
Junqiang Sun, Postdoctoral Fellow (Ruedenberg)
Randy Wengert, Plant Safety Patrol Officer (Mathison)
Rickie Wheeler, Custodian I (Runge)
Gerald Wickham, Visiting Scientist (Yeung)
Jerzy Zak, Postdoctoral Fellow (Porter)

Your Safety Coordinators

Baikerikar, K. G.	(Thiel)	Materials Chemistry	4-7995
Bates, Connie	(Bluhm)	Engineering Services	4-7898
Borgen, Dianne	(Volz)	Office of Information	4-5635
Cummings, Jack	(Merritt)	Administration Division	4-4582
Flesch, Jerry	(DePristo)	Fundamental Interactions	4-2217
Hayes, John	(Yeung)	Environmental Sciences	4-4872
Helland, Barb	(Corones)	Applied Mathematical Sciences	4-5320
	(Corones)	Environmental Restoration and Waste Management	
Klein, Art	(Rosenberg)	High Energy Physics	4-7880
	(Haas)	Scientific Computer Services	
Mack, Carol	(Mathison)	Safety, Health and Plant Protection	4-2056
Mason, John	(Buck)	Metallurgy and Ceramics	4-6529
Norton, Glenn	(Buttermore)	Fossil Energy	4-1035
Ostenson, Jerry	(Harmon)	Condensed Matter Physics	4-3312
Vaclav, Mike	(Godar)	Facilities Services	4-7891
Weeks, Stephan	(Edelson)	Safeguards and Security	4-4922/4-7947
Winge, Royce	(Espenson)	Processes and Techniques	4-7942

Self-Assessments

The Lab's safety and health self-assessment team currently touring work areas has found many faults! Please review your areas prior to their visit. Your cooperation will help complete this big job on time.

The team will indicate a problem or fault in one of three ways:

1) An "orange dot" means something was found in the area that needs to be corrected. The equipment or area in question can continue to be used, but something needs to be dealt with.

2) A "CAUTION—DO NOT USE" sign is placed on equipment that should not be used.

3) A "lock-up box" will lock up the electrical cord to any equipment that is dangerous. It cannot be used until the problem is fixed.

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